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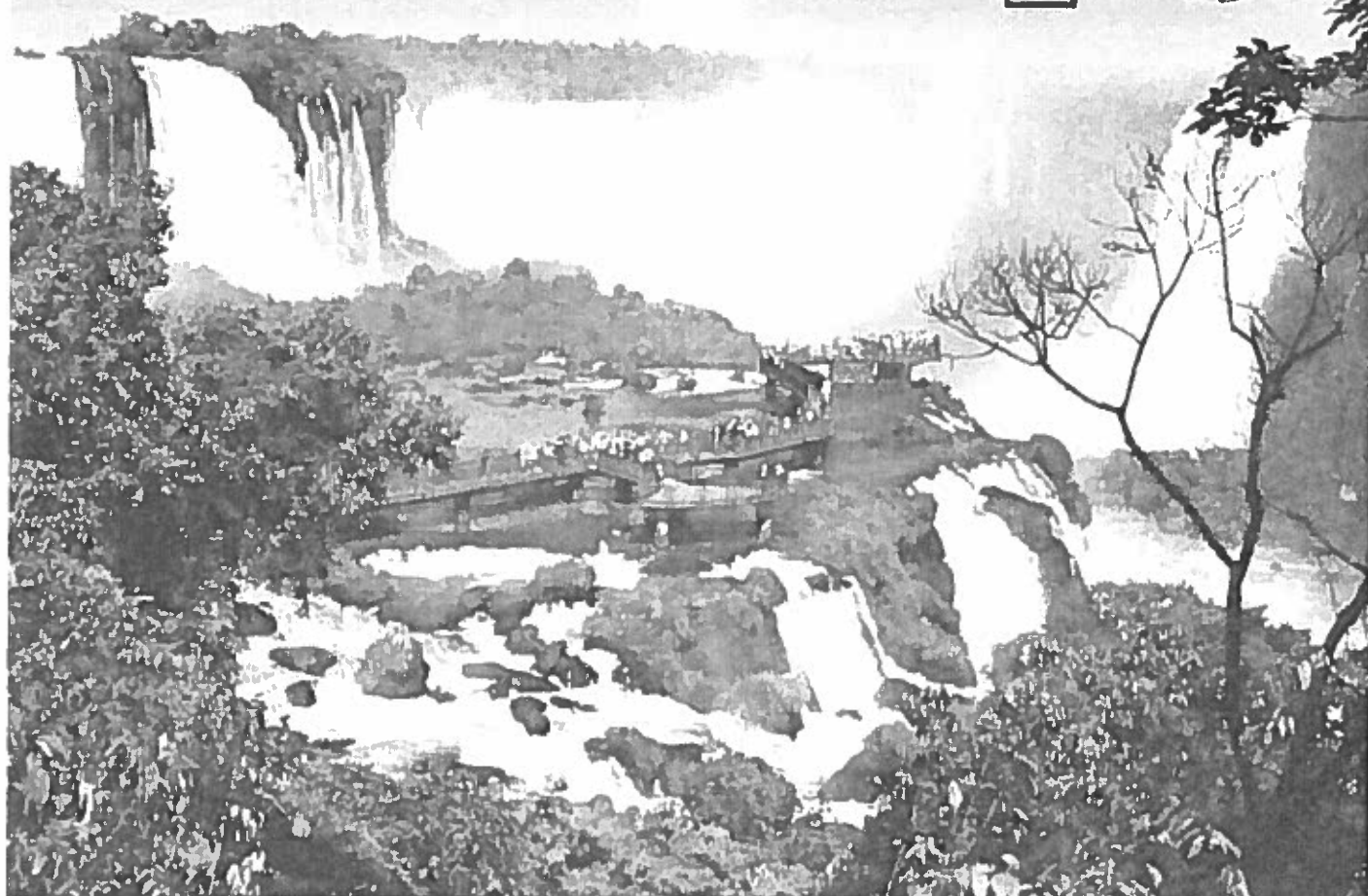
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Indicators for Sustainable Recreational Use of Forests and Other Natural Resources – Experiences from Northern Europe

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Introduction

Sustainable development is a long-term goal for most natural resource related policies. In Europe, at the first Ministerial Conference on the Protection of Forests in Europe (MCPFE 1993, now 'Forest Europe'), sustainable forest management was defined as "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems." (Helsinki Resolution H1, www.mcpfe.org). The Forest Europe process involves 45 European countries, and has a counterpart in the Montreal Process (<http://www.rinya.maff.go.jp/mpci/>). The need to establish a global policy for sustainable use and management of forest resources is expressed also by the United Nations Forum on Forests (UNFF, <http://www.un.org/esa/forests/index.html>). The sustainability concept itself is based upon the principle that current

resource uses need to be in balance so that future uses are not threatened, and that future generations have the same opportunities to use and benefit from natural resources as the present generations have. The state of balance should be known and possible to define, and when agreed upon, development and changes over time should be monitored. When monitoring is required, there is a need for efficient measures (indicators) to describe the state of sustainability, the phenomena in question and associated changes.

Among nine North European countries, a project 'Social indicators in forestry –further development in the North European context' (SOSIN) was initiated in 2012 in order to assess suitable indicators for sustainable recreational use of forests and other natural resources. The project gathered information about existing processes and reporting of social indicators for recreation and nature tourism in each participating country. The second goal was to assess the status of recreation monitoring in North Europe. The project produced a state of art report of used and proposed recreation indicators, and

recreation monitoring (Sievänen et al. 2013).

Results of reviewing state of art of recreation indicators and monitoring in North Europe

The first topic was to report how nature-based recreation and tourism is represented in policy documents, and whether any statements exist, which support use of indicators and monitoring for the purpose of sustainable use of natural resources or land use. The results show that most countries have policies for (i) sustainable forestry, (ii) preserving biodiversity, and/or (iii) sustainable tourism. We have also included integration of land uses, integration of recreation and tourism with timber production, nature conservation or mining and other extractive use of natural resources besides political goals such as human health and wellbeing in respect of use of land and natural resources. One important aspect is the sustainability of recreational use itself. Most countries were able to put forward policy documents, which are related to natural resources, tourism, land use planning or health sector, and in which nature-based recreation and/or tourism are mentioned as having a role in the sector.

The most typical type of document was a national forest program or strategy. Only four countries (Denmark, Finland, Norway and Sweden) have a specifically focused strategy or program for outdoor recreation and/or nature-based tourism.

The second topic was to collect lists of indicators presented in official documents or in other literature such as study or review reports of recreation indicators. Most countries report some indicators related to recreation. In Denmark, Scotland and Sweden, several different indicators are found in different documents. Norway has some official outdoor recreation indicators, but not specified for forest recreation. There is a lot of variation between the existing indicators, and there doesn't appear to be one that is common in terms of scales of measurement or limits of applied type of nature area to all countries. The list of indicators adopted in 'official documents' is surprisingly short. Indicators such as 'extent of open public access', 'proportion of population

participating in outdoor recreation', or 'number of visits to forests' are most common. More indicators are related to the demand for recreation than to supply of recreation opportunities. A summary of the most often mentioned indicators is found in table 1.

The third topic for reporting was the sources of data and information that are used for monitoring recreation indicators. The objective was to determine who is responsible for the provision of monitoring data, what the quality of data is and whether the data is updated systematically. Another important aspect is to determine the prospects of data collection continuing into the future. Finally, one key task was to find out whether there is any systematic monitoring or data available for the indicators related to recreation and tourism, which could serve as data sources for recreation indicators but which are not in use at the moment.

Most countries report some kind of monitoring system or database, which is or could be used for monitoring recreation indicators. Many countries also report that there is some systematic data collection both at national and local level, and both from a demand and a supply perspective. But in most countries the data collection is not primarily for monitoring nature-based recreation. Only Denmark, Finland, Norway and Scotland can report having especially focused monitoring for outdoor recreation nation wide. Estonia, Denmark, Finland and Scotland have regularly conducted on-site visitor surveys, but the local/on-site level monitoring is mainly concentrated on state owned areas. Denmark and Scotland have the best coverage of visitor surveys and counting. Denmark, Estonia, Finland, Norway, Northern Germany, Scotland and Sweden gather outdoor recreation related statistics with surveys such as Living conditions, Time Use, Environmental awareness, Culture and Leisure, or with general National Statistics such as in Germany.

Most countries do not, however, monitor sustainability of nature-based recreation and tourism systematically over time and were unable to provide information on indicators or monitoring systems for evaluation and assessment of recreation. Most of the countries studied

are also unable to report the Forest Europe indicators relating to recreation and other social benefits of forests as demanded. Some countries, do however, report good progress in their efforts to monitor recreational use of forests, particularly in protected areas.

Table 1. Summary of most often mentioned recreation indicators among eight North European countries (Denmark-DK, Estonia-EST, Finland-FIN, North Germany-GEM, Norway-NO, North-Western Russia-RUS, Sweden-SWE, Scotland-UK)

Recreation Indicator	Number of countries	Remarks
Proportion of population which take part in outdoor activities	DK, FIN, NO, SWE, UK = 5	Number of activities measured varies between countries
Visits to woodlands/ national forests/ different types of nature areas/ national parks and state owned hiking areas	DK, EST, FIN, NO, UK = 5	Destination type and amount/size of destination areas differ between countries
Proportion of adults who visited woodland/ forest/nature area in previous 12 months	DK, FIN, NO, UK = 4	Destination type varies
Number and length of core paths in woodlands/ recreation trails (for walking, hiking, cross-country skiing)	FIN, UK = 2	Type of paths or trail vary
Proportion of population with short distance to local green areas	NO, SWE, UK = 3	The definition of 'short distance' and 'local green areas' vary: 300 m/ Sweden, 500 m/UK, 200/500 m/Norway
Extent of open public access (Forest Europe Indicator); everyman's rights	DK, EST, FIN, NO, SWE, UK = 6	Everyman's rights vary slightly between countries

Conclusions and Discussion

The project identified several problems with current social indicators of nature-based recreation and tourism. In most countries, the relevant indicators are not feasible and effective to offer reliable information of on-going changes. The major problem in most countries is that there is a serious shortage of reliable data to provide quantitative figures for social indicators. In addition, there is still limited coherence and no agreement on which could be the best recreation indicators to be used on Europe wide, national or local level. According to COST E33 reporting, most European countries lack efficient monitoring systems to offer estimates of indicators across time and regions (Sievänen et al. 2008). Recreation monitoring is taking place in most North European countries to some extent, but less so in other parts of Europe. But also in the North, monitoring methods and outputs accordingly vary a lot

between countries. There are efforts to include recreation measurements into forest inventory systems (Danish National Forest Inventory), or there are national outdoor recreation demand inventories (Denmark, Finland, Scotland), and in some countries there are databases of recreation supply (of recreation areas, trails, other services).

Also, indicators presented are often not directly measuring demand or supply of recreation, or other aspects of recreation but rather values that are indirectly

related. Those indicators are chosen because the data are available, but there is a danger that the indicators are not effective to capture the key issue. A big problem is that there are no reliable measurements to offer for reporting sustainability (or equity), and few countries can provide time series for national or regional level information, which is needed to describe the status of the indicators. Finally, there are not always standards for the information describing the indicators, and thus information gathered may not be comparable between countries.

There is an obvious need to enhance the monitoring of social aspects of forests and forestry, and also other sectors such as preserving biodiversity or health and wellbeing in society related to nature-based recreation and tourism. Globalisation continues to have a stronger impact on human society across Europe, and European countries will continue to share policies for use of

natural resources but also in terms of the status of wellbeing of populations. Good measures and indicators for our societies' success in achieving the objectives of sustainable development are essential and valuable for the wellbeing of people. Our knowledge-base and understanding of the full range of benefits, which people gain from the natural environment when taking part in outdoor recreation, supports the overall goal of enhancing the provision of access to healthy green environments for recreation.

Our next challenge is to work towards relevant and informative indicators that reveal the benefits to our societies and whether societal goals are being achieved. The task is to develop and improve the indicators which are already in use, and also to create new indicators. The indicators should be effective, focused, and be useful for many purposes and also in other sectors of natural resources in North European countries and beyond.

There is a need to assess the possibilities of creating and recommending standardized and harmonized social indicators, which could provide comparable figures across countries and regions. Second, the core task is to assess what kind of social, especially recreation, indicators are needed and possible to implement, and what kind of quantitative data is available for collection on a continuous basis in different countries. There is also a need to ensure feasible monitoring systems, which are reasonable in terms of cost and methodology so that many countries can apply them. In all countries included in this study, there is a challenge to develop

monitoring systems to produce inventory data for recreation statistics that provide a knowledge-base for indicators that are comparable across Europe.

In conclusion, the project identified a need for better indicators and development of systematic and long term monitoring of sustainability in recreational use of forests and protected areas among Northern European countries, and across Europe as a whole.

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